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## ANALYTIC SUBJECT INDEX TO VOLUME 37 OF THE AMERICAN JOURNAL OF PHYSICS

The American Journal of Physics Subject Index is different and, we think, better than many other subject matter indexes. Since its method of organization may be new to many of our readers, some instruction in its proper use is in order.

The vast majority of American Journal of Physics articles fall under more than one of the subject categories we use (see list below). Thus a paper describing a mechanics experiment will fall under the headings 310 and 110, and possibly others. In the American Journal of Physics Index such an article will appear under each principal category to which it pertains. Furthermore, and this is the novel feature of our index, articles with the same second category are grouped together within the principal category.

For example, under the heading "310 - Experiments" all articles which are also classified under "110 - Classical Mechanics" are grouped together in a block carrying the prefix "110:". Similarly under the principal heading "110 - Classical Mechanics" all articles also classified as experiments are grouped together and carry the prefix "310:". A prefix "000" means that there is no secondary classification for that block of articles.

Under each principal subject heading book reviews, film reviews, and abstracts of papers read at meetings are segregated from one another and from the remainder of the published papers. The latter appear under a subheading "Regular Articles, Notes and Letters." Notes and Letters are distinguished from regular articles by an "N" or "L" appended to the page number. The number preceding the page number is the issue number.

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->A Direct Measurement of the Speed of Sound--Manka C K--2/223/N  
135:Experimental Thermodynamics with a Stretched Wire--Wintle H J--4/406  
140:An Undergraduate Experiment Demonstrating Flux Quantization and Superconductivity--Collings P J, Gordon J E--3/293  
145:Ferroelectricity Experiment for Advanced Laboratory--Schmidt V H--4/351  
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150:Spatial Filtering Experiments for Undergraduate Laboratories--Phillips R A--5/536  
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160:A Student Exercise on the Decay Scheme of Indium (116m)--Banta H E, Gleason G I--6/605  
->Lithium-Drifted Germanium Detectors--French W R, LaShure R L, Curran J L--1/11

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->Undergraduate Experiment to find Nuclear Sizes by Measuring Total Cross Sections for Fast Neutrons--Minor T C, Martin P D, Montgomery H E, Okun L M, Fowler J L--6/649  
->A Laboratory Measurement of Decay Energy in Electron Capture from Inner Bremsstrahlung Spectrum--Raj K, Ramaswamy M K--1/70  
->Alpha Particle Path Length Measurement Using a Solid-State Detector--Picken G W--2/217/N  
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166:Erratum: 'Mass of the Neutron-A Student Exercise' Amer. J. Phys. 35, 739(1967)--Banta H E--4/455/N  
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->An Advanced Laboratory Experiment on Tunneling in Semiconductor Diodes--Merrill J R--3/269  
->Elementary Experiment on the Variation of Resistance at Low Temperature--Winch D M--1/108/N  
190:Laboratory Astronomy: A Geometric Experiment to Determine the Orbit of Mercury--Herr R B--1/74  
200:Demonstration of Additive Color Mixing Rules under the Influence of Color Contrast--Holtzman T--6/662  
320:Dispersion of an Electromagnetic Pulse--Aksornkitti S, Hsuan H C S, Lonnegren K E--8/783  
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330:The Poorman's Macroscopic Scattering Analyzer--Hageseth G T, McCormack F J--2/204  
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350:The Flinders University Part I Physics Laboratory--Brennan M H, Fletcher J R--4/400  
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360:An Improved Computer Version of the Prism Spectrometer Experiment--Grossberg A B--5/559/N

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->Six Air Table Experiments in Mechanics for the Introductory Physics Laboratory--Marousek G R--11/1184  
->The Curvilinear Air Track--Stull J L--11/1191  
130:Acoustical Holography--Dunlap K E, Harper G R, Rohmberg A A, Smith W W--11/1191  
135:A Simulated Free Expansion--Sayetta T C--11/1184  
145:Mechanical Hysteresis with Inexpensive Equipment--Garon H A--11/1191  
->Quantitative Electrostatic Experiments Using a Low-Cost Field Mill--Smith E M, Layton R G--11/1175  
154:New Experiments Using the Microwave Bragg Diffraction Apparatus--Muldawer L--11/1184  
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160:Simple Accurate Technique for Measuring Gamma-Ray Absorption Coefficients in an Undergraduate Laboratory--Edwards W H, Takhar P S, Grace B W--11/1185  
180:An Experiment in Water Flow through a Narrow Tube--Lebb M W--11/1188

- 190:Photometry of Eclipsing Binary Stars as an Undergraduate Research Program--Karle J H--11/1191  
 360:Computer-Assisted Air Track Profiling--Borst R E, Stull J L--11/1191  
 420:Laboratory Experiences: An Approach to Physics Teaching--Mihm R J--11/1183  
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 540:Toward a Diversified Elementary Laboratory--Sharrah F C--11/1188  
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 340:G L Squires, 'Practical Physics'--Burnett C R--10/1072  
 350:W Bolton, 'Physics Experiments and Projects'--Merrill J R--9/947

## 320 - DEMONSTRATION APPARATUS

- REGULAR ARTICLES, NOTES AND LETTERS - - - - -  
 000:Conversion of a Horizontal Overhead Projector to Project Vertically Oriented Demonstration Experiments--Whittles A B E--1/108/N  
 110:Launcher and Transparent Air Table for Use with Overhead Projector--Garr H Y, Weidner R T, Muller G H--9/857  
 ->A Demonstration of the Spring-Mass Correction--Sears F W--6/645  
 ->Working Model of a Foucault Pendulum at Intermediate Latitudes--Sears F W--11/1126  
 ->A Rotating Two-Dimensional Harmonic Oscillator--Bayman B F, Thayer D--8/841/N  
 ->Mechanical Demonstration of Inelastic Collisions and Excited States--Gee M J--5/562/N  
 ->Effective Gravitational Acceleration--Grasso M N, Merlo T O, Lavigne M E--4/456/N  
 ->Demonstrating Elastic and Inelastic Collisions Using Bouncing and Nonbouncing Balls--Haigh P J--3/333/N  
 ->A Quick Demonstration of the Inverted Pendulum--Jones H W--9/940/N  
 115:Gravitational Lens Simulator--Liebes S--1/103/N  
 125:Musical Combination Tones and Oscillations of the Ear Mechanism--Olson D--7/730  
 130:Single Antenna X-Band Doppler Shift Apparatus--Simpson R E--7/744  
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 ->A Simply Constructed Model for Demonstrating Wave Propagation--Wuchinich D--1/104/N  
 145:Apparatus for Suspension of Charged Particles and Droplets--Berg T G O--9/859  
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 150:Brightess--On the Ray Invariance of  $B/n^n$ --Liebes S--9/932/N  
 ->The Mirage in the Lab--Poggi G, Pontiggia C--3/332/N  
 ->Apparatus for Direct Measurement of the Velocity of Light--Proud J, Cronson H, Huber H, Weinstein R--9/939/N  
 ->On the Resolving Power of the Optical Microscope--VanCamp K J--1/105/N  
 151:A Study of Brownian Motion Using Light Scattering--Clark N A, Lunacek J H--9/853  
 ->Diffraction Plates for Classroom Demonstrations--Hoover R B--9/871  
 ->Mechanical Model of a Q-Switched Laser--Isenor N R--11/1159/N  
 ->Ultrasimple Demonstration of Fraunhofer Diffraction and Interference--Ruehner D J--5/566/N  
 154:Miller Indices Demonstration Model--Connelly J J--3/333/N  
 166:Apparatus for Studying the Principles of Electron Physics--Kendall B R F, Luther H M, David D R--9/855  
 180:Parabolics and Vortices in Hydrodynamics--Goodman J M--9/864  
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 310:Dispersion of an Electromagnetic Pulse--Aksornkitti S, Neuan H C S, Longrenn K E--8/783  
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 330:Inelastic Collision Device--Burris A--9/941/N  
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 340:A Light-Spot Follower Attachment for Potentiometer-Type Chart Recorders--Extermann R C--9/861

- >An Improved Mounting for the Welch Bragg Diffraction Apparatus--Bullen T G--3/333/N  
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 000:'Schedulog' for Demonstrations in Physics--Balinkin I--11/1176  
 110:The Poorman's Macroscopic Scattering Analyzer Using Two Different Surface Potentials--Hageseth G T--11/1185  
 145:The Magnetostriction Sonometer in the Physics Classroom--Saunders W W--11/1174

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 000:Test Jig for Ionization-Chamber Fiber Electroscope--Cole R W--2/221/N  
 ->An Adjustable Platform--Hanson A W--4/456/N  
 ->Strobe Photos with the 'Big Swinger'--Hlavaty P--2/221/N  
 ->Inexpensive High-Capacity Liquid Nitrogen Cold Trap--Martin D H, Davis D A--1/109/N  
 ->Need an Inexpensive 'Scope' Camera?--Stenton D E--2/226/N  
 110:A Frictionless, Rotation-Free Simple Atwood's Machine--Eaton B G--4/451/N  
 ->A Transistorized Spark Timer for the Undergraduate Laboratory--Erskine J C--5/563/N  
 ->Note on Double Sparker--Good R H--4/455/N  
 ->Effect of a Viscous Friction Force on the Angular Momentum of a Particle in a Central Force Field--Parodi M, Pescetti D--9/936/N  
 ->Some Operational Characteristics of the Search Rotational Dynamics Apparatus--Sperry W C--12/1282/N  
 130:A Microwave 'Optical Bench'--Silbermagel B G, Worster B W--4/450/N  
 145:A Simple Measurement of the Relative Permittivity of an Insulating Liquid--Secker P E--10/1029  
 ->Double Sparker for Linear Air Track--Rendell D H, Grundke E W--10/1065/N  
 151:Construction of Helium-Neon Lasers Operating at 6328 A--Malacara D, Berriel L R, Rizo I--3/276  
 ->Conversion of a Simplified He-Ne Gas Laser to Pulsed Operation with Ar, Kr, and Xe--Morgan H W, Staats P A, Griffin P M, Werner K L, VanderGluis K L--9/938/N  
 ->An Inexpensive Holography Table--Toepker T P--4/455/N  
 160:Undergraduate Experiment to find Nuclear Sizes by Measuring Total Cross Sections for Fast Neutrons--Minor T C, Martin F D, Montgomery H E, Okun L M, Fowler J L--6/649  
 ->Radioactivity Demonstration--Charas S--3/331/N  
 ->A Simple Vibration Detector for Mossbauer Velocity Drives--Dutta J B, Bajjal J S--4/456/N  
 176:A Reflex Discharge for Plasma Physics Experiments--Hanisch J L, Stetson R F--7/753/N  
 180:Apparatus for the Study of Charged Particles and Droplets--Berg T G O, Gaullier T A--10/1013  
 185:Student-Type Mossbauer Spectrometer--Iyengar P K, Nathan P S--7/754/N  
 220:A Meter to Measure Speeds of Objects on an Air Track--Holland M W--3/327/N  
 ->Low Noise, High Input Impedance Operational Amplifier Using Junction Field Effect Transistors--Lettvin J--5/566/N  
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- 151: AAPT Committee Report: Survey of Educational HeNe Lasers--Jeong T H--11/1177  
 160: Californium-252 Neutron Sources for Physics Instruction and Research--Kauffman G E C--11/1181  
 310: Quantitative Electrostatic Experiments Using a Low-Cost Field Mill--Smith E M, Layton R G--11/1175

## 340 - LABORATORY ARTS AND TECHNIQUES

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 150: Use of Grating to Find Interferometer White Light Fringes--Bell G D, Tubbs E F--3/273  
 151: A Holographic Technique Using a Diffuser as a Beam Splitter--Pletsch R--7/788/N  
 210: Precision through Error Generation--Fajans J--5/526  
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 185: R S Alger, 'Electron Paramagnetic Resonance, Techniques and Applications'--Rogers R N--8/847  
 310: G L Squires, 'Practical Physics'--Burnett C R--10/1072

## 350 - LABORATORY ORGANIZATION AND OPERATION

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 210: Least-Squares Adjustment of Weighted Data to a General Linear Equation--Gerhold G A--2/156  
 340: Least Squares Made Easy--Heald M A--6/655  
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 ->A Computer-Based Laboratory for a Non-Traditional Introductory Physics Course--Kinsey K F, Kenyon J--11/1180  
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- 280: Anniversaries in 1969 of Interest to Physicists--Barr E S--1/3  
 500: The Physics Workshop at Northeastern University in Boston--Sharon Y Y, McGuire J H, Miller M G, Morelli L, Russo M--8/799

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 430: Resource Letter EP-1 on Educational Psychology--Ivany J W G--11/1091  
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 ->W C Michels, M Correll, A L Patterson, 'Foundations of Physics'--Stewart J W--5/570  
 ->R H Whitford, 'Physics Literature, a Reference Manual'--Weber R L--5/571  
 105: H Ebert, Ed 'Physics Pocketbook'--Armstrong H L--1/112  
 110: R A Baker, Ed, 'A Stress Analysis of a Strapless Evening Gown'--Furth H P--9/945  
 ->E Skudrzyk, 'Simple and Complex Vibratory Systems'--Lindsay R B--5/569  
 ->E R Huggins, 'Physics I'--Reitz R A--1/110  
 ->W Alonso and E J Finn, 'Fundamental University Physics, Vol III'--Stetson R F--2/235  
 115: E A Guggenheim, 'Elements and Formulae of Special Relativity'--Bartlett J H--6/673  
 ->A P French, 'Special Relativity'--Finn E J--10/1068  
 ->Y P Terletskii, 'Paradoxes in the Theory of Relativity'--Gordon J E--4/460  
 ->F Bergmann, 'The Riddle of Gravitation'--Rindler W--2/234  
 120: J H D Hayman, 'Statistical Thermodynamics'--Nagle J--8/845  
 ->R Liboff, 'Introduction to the Theory of Kinetic Equations'--Nichols W--12/1292  
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 ->N Feather, 'Electricity and Matter'--Turoff R D--4/461  
 ->J Galejs, 'Antennas in Inhomogeneous Media'--Wait J R--11/1164  
 150: R Brown, 'Laser: Tools of Modern Technology'--Albergotti J C--7/759  
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 ->H C Corben, 'Classical and Quantum Theories of Spinning Particles'--Greene M P--1/114  
 ->G Ludwig, 'Wave Mechanics'--Hsu H--1/111  
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 160: J B Marion, F C Young, 'Nuclear Reaction Analyses--Graphs and Tables'--Bromley D A--10/1070  
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 ->A A Vedenov, 'Theory of Turbulent Plasma'--Ross D W--6/672  
 185:D Long, 'Energy Bands in Semiconductors'--Artman R A--6/672  
 ->V I Pistul, 'Heavily Doped Semiconductors'--Blakemore J S--12/1291  
 ->P R Thornton, 'The Physics of Electroluminescent Devices'--Gershenson M--1/113  
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 190:D Mihalas, P Routly, 'Galactic Astronomy'--Fredrick L W--6/671  
 ->Y Oman, 'Mass Motions in Solar Flares and Related Phenomena'--Howard R F--12/1289  
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 210:W Yourgrau, S Mandelstam, 'Variation Principles in Dynamics and Quantum Theory'--Arthur W--7/758  
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 ->D Tsalman, 'Special Functions, A Group Theoretic Approach'--Biedenharn L C--10/1073  
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 280:J A Easley and M M Tatsuoka--Bernatowicz A J--3/340  
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 340:G L Squires, 'Practical Physics'--Burnett C R--10/1072  
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## 420 - COURSE DESIGN

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 310:Laboratory Astronomy: A Geometric Experiment to Determine the Orbit of Mercury--Herr R B--1/74  
 350:The Flinders University Part I Physics Laboratory--Brennan M H, Fletcher J--4/400  
 460:A Computer-Guided, General-Education Physics Course--Kromhout O M, Edwards S, Schwarz G--10/995  
 510:Introductory Modern Physics: A Course for Freshmen--Mikkelsen R C--11/1110  
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